The opinion in support of the decision being entered today was <u>not</u> written for publication and is <u>not</u> binding precedent of the Board.
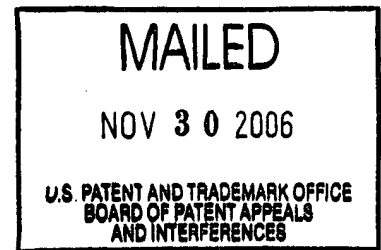
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

_____

<u>Ex parte</u> ANTHONY JOHN O'DOWD

_____

Appeal No. 2006-3352
Application No. 09/682,520

_____

ON BRIEF

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Before HAIRSTON, BLANKENSHIP, and LUCAS, <u>Administrative Patent Judges</u>.

LUCAS, <u>Administrative Patent Judge</u>.

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DECISION ON APPEAL

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This is a decision on appeal from the final rejection of claims 1 to 15.

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Invention

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Appellant's invention relates to a method for tracing the execution path of a computer program comprising at least one module including a plurality of instructions, wherein at least one of the instructions is a branch instruction. The method comprises the steps of identifying each branch instruction, evaluating each branch instruction to be one of true or false, and responsive to an evaluation of true, pushing a unique identifier into a predefined area of storage, wherein the unique identifier is associated with the

instructions executed as a result of the evaluation of true (Brief, page 2). Claims for an

apparatus, a method for instrumenting a computer program, and a compiler for

instrumenting a computer program with similar limitations are also presented.

Claim 1 is representative of the claimed invention and is reproduced as follows:

1.   A method for tracing the execution path of a computer program
comprising at least one module including a plurality of instructions, at least one of said
instructions being a branch instruction, the method comprising the steps of:

identifying each branch instruction;

evaluating each branch instruction to be one of true and false; and

responsive to an evaluation of true, pushing a unique identifier into a predefined
area of storage, wherein said unique identifier is associated with the instructions
executed as a result of said evaluation of true.

References

The references relied on by the Examiner are as follows:

Wisor et al. (Wisor)   6,173,395   Jan. 9, 2001

Ayers et al. (Ayers)   6,353,924   Mar. 5, 2002
                                                            (filed Feb. 8, 1999)

Rejections At Issue

Claims 1, 13 and 14 stand rejected under 35 U.S.C. § 102(b) as being

anticipated by Wisor.

Claims 2 and 3 stand rejected under 35 U.S.C. § 103 as being obvious over Wisor.

Claims 4-12 and 15 stand rejected under 35 U.S.C. § 103 as being obvious over Wisor in view of Ayers.

Throughout our opinion, we make references to the Appellant's briefs, and to the Examiner's Answer for the respective details thereof.[1]

OPINION

With full consideration being given to the subject matter on appeal, the Examiner's rejections and the arguments of the Appellant and the Examiner, for the reasons stated infra, we affirm the Examiner's rejection of claims 1 to 15 under 35 U.S.C. § 102 and § 103 as specified above.

I.   **Whether the Rejection of Claims 1, 13 and 14 Under 35 U.S.C. § 102(b) is proper?**

It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. See In re King, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co., 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

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1 Appellant filed an appeal brief on October 7, 2005 and a reply brief on July 3, 2006. The Examiner mailed an Examiner's Answer on April 28, 2006.

To determine whether claim 1 is anticipated by the references, we must first

determine the scope of the claim. Our reviewing court states that during patent

examination proceedings the PTO gives a disputed claim term its broadest reasonable

interpretation during patent prosecution. In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d

1664, 1667 (Fed. Cir. 2000). The "broadest reasonable interpretation," rule recognizes

that "before a patent is granted the claims are readily amended as part of the

examination process." Burlington Indus., Inc. v. Quigg, 822 F.2d 1581, 1583, 3 USPQ2d

1436, 1438 (Fed. Cir. 1987). Thus, a patent applicant has the opportunity and

responsibility to remove any ambiguity in claim term meaning by amending the

application. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550 (CCPA 1969).

Additionally, the broadest reasonable interpretation rule "serves the public interest by

reducing the possibility that claims, finally allowed, will be given broader scope than is

justified." In re American Academy of Science Tech Center, 367 F.3d 1359, 1364, 70

USPQ2d 1827, 1830 (Fed. Cir. 2004) (quoting In re Yamamoto, 740 F.2d 1569, 1571-

72, 222 USPQ 934, 936 (Fed. Cir. 1984)).

The elements of claim 1 encompass:

1. A method for tracing the execution path of a computer program comprising at
least one module including a plurality of instructions, at least one of said instructions
being a branch instruction, the method comprising the steps of:

identifying each branch instruction;

evaluating each branch instruction to be one of true and false; and

responsive to an evaluation of true, pushing a unique identifier into a predefined area of storage, wherein said unique identifier is associated with the instructions executed as a result of said evaluation of true.

Although a claim is read in the context of the supporting specification, during prosecution the claim terms are given the broadest reasonable interpretation, as indicated in the above cited cases, and are to not be unduly limited by either the specification or the appellant's arguments in interpreting the terms of the claim under examination.

In the Examiner's Answer, Examiner indicates his reading on the anticipatory reference Wisor, as follows:

> -a method for tracing the execution path of a computer program comprising at least one module including a plurality of instructions ("to enable the user to trace the sequence of execution of instructions..." [Wisor] col. 3 lines 1-2).
>
> - at least one of said instructions being a branch instruction, ("The stored data identifies whether or not certain branches in the test program were taken..." [Wisor] col. 4 lines 58-59).
>
> - identifying each branch instruction; ("involves detecting the branch instructions..."[Wisor] col. 6 lines 16-17)
>
> - evaluating each branch instruction to be one of true and false, and responsive to an evaluation of true, pushing a unique identifier into a predefined area of storage, wherein said unique identifier is associated with the instructions executed as a result of said evaluation of true. ("...When a test program is executed, a trace record is generated and stored in the BTHB (branch trace history buffer) ...the bitmap entries are generated for a series of conditional branches and contain individual bits which represent the taken or not-taken status of the branches." [Wisor] col. 3 lines 11-21) [Answer, page 4]

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Appellant argues that not all the elements of the claim are taught by the reference, either expressly or inherently. One missing element is argued to be:

" ...pushing a unique identifier into a predefined area of storage, wherein said unique identifier is associated with the instructions executed as a result of said evaluation of true" [Brief, page 5].

Similar omissions are indicated with respect to claims 13 and 14. Appellant argues that individual bits taught in Wisor are not unique identifiers as claimed "since they merely represent whether a branch is taken or not taken" [Brief, page 6].

We consider the "1" bits in Wisor that indicate a branch was taken as unique, as those bits are different from and distinguished from the "0" bits that are indicated when the branch is not taken. Though a disclosure in the specification, and the arguments in appellant's brief, may wish to indicate that the uniqueness of the identifier is a one-to-one correspondence of the identifier to a particular conditional branch, such an identity is not required by or specified in the claim language.

Claim 1 requires only that a "unique identifier is associated with the instructions executed as a result of said evaluation of true." An "association" is not a tight linkage. The unique identifier, "1," in Wisor, only appears when the branch is evaluated as "true," which is a minimal, but sufficient association for the claim language "wherein said unique identifier is associated with the instructions executed as a result of said evaluation of true." But Wisor does go further and places the "1" bit in a predefined

area of storage (the BTHB) further strengthening the association with the executed instructions.

Though appellant argues that Wisor "fails to teach or suggest 'evaluating each branch instruction to be one of true and false, and responsive to an evaluation of true, pushing a unique identifier into a predefined area of storage,'" his argument centers on the identifier not being unique, rather than the predefined area of storage [Brief, page 8]. We find, in Wisor, the predefined area of storage, and the unique identifier, as discussed supra.

In the Reply Brief, page 4, appellant further argues concerning the term "unique" indicating that, in Wisor, the sent messages cannot be unique, as the same "1" bit is sent when two different conditional branches are activated. We certainly are guided to derive the meaning of a word, such as "unique," in terms of the specification "we must look at the ordinary meaning in the context of the written description and the prosecution history," Medrad, Inc. v. MRI Devices Corp., 401 F.3d 1313, 1319, 74 USPQ2d 1184, 1189 (Fed. Cir. 2005) quoted in Phillips v. AWH Corp., 415 F.3d 1303, 1313, 75 USPQ2d 1321, 1326 (Fed. Cir. 2005), cert. denied sub. nom., 126 S. Ct. 1332 (2006). However in the same Phillips case (Id., 75 USPQ2nd at 1329) we are further guided that: "The Patent and Trademark Office (PTO) determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction 'in light of the specification as it would be

interpreted by one of ordinary skill in the art.'" (quoting In re American Academy of

Science Tech Center, 367 F.3d at 1364, 70 USPQ2d at 1830 (Fed. Cir. 2004)).

Though a term is construed in view of the specification, we are also guided not to

read limitations from the specification into claims. SmithKline Beecham Corp. v. Apotex

Corp., 403 F.3d 1331, 1352, 74 USPQ2d 1398, 1412 (Fed. Cir. 2005).

> "The court's motivation notwithstanding, the practice of reading limitation from
> written descriptions into claims invariably leads to misconstrued claims. Simply
> pointing to discussions in the specification or prosecution history cannot rebut
> the presumption that claims should be afforded their ordinary meanings." CCS
> Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366, [62 USPQ2d 1658, 1662]
> (Fed. Cir. 2002). "We recognize that there is sometimes a fine line between
> reading a claim in light of the specification, and reading a limitation into the claim
> from the specification." Comark Communications v. Harris Corp., 156 F.3d 1182,
> 1187, [48 USPQ2d 1001, 1005] (Fed. Cir. 1998) (citations omitted). "In this
> case, there is little doubt that the district court crossed that line."

We find that reading into the term, "unique," the requirement that the identifier be

unequivocally associated with one and only one conditional branch instruction being

found "true" crosses the line of reading limitations from the written description into the

claims.

Independent claims 13 and 14 are argued with parallel arguments as those for

claim 1, so we affirm the rejection of claims 13 and 14 under 35 U.S.C. § 102 with the

same reasoning as applied to claim 1.

Therefore, we will sustain the Examiner's rejection of claims 1, 13 and 14 under

35 U.S.C. § 102(b) as being anticipated by Wisor.

II.   Whether the Rejection of Claims 2 and 3 Under 35 U.S.C. § 103 is proper?

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the invention as set forth in claims 2 and 3 to be obvious over Wisor.

Appellant has presented no new arguments concerning the limitations in claims 2 and 3, but has relied upon the reasons in the Brief for the patentability of claim 1. In view of the discussion above, we affirm the rejection.

Therefore, we will sustain the Examiner's rejection under 35 U.S.C. § 103 of claims 2 and 3 as being obvious over Wisor for the same reasons as set forth above.

III.   Whether the Rejection of Claims 4 to 12 and 15 Under 35 U.S.C. § 103 for being obvious over Wisor in view of Ayers is proper?

Appellant argues against the rejection of claims 4 to 12, stating that these claims depend on claim 1, which should be patentable for reasons discussed above. In view of the discussion of the Wisor patent supra, we sustain the rejection of claims 4 to 12 on these grounds.

In addition to the argument as presented for claim 1, appellant argues that neither Wisor nor Ayers maintains a distinction between a "storage area" and a "file" as claimed in claim 4 (Brief, page 10). As mentioned by the examiner, "Ayers discloses in

an analogous trace recording system outputting trace sequence information to a file as claimed" (Answer, page 6, and Ayers, column 3, lines 60 to 61). We find claim 4 obvious over the prior art as taught by Wisor and Ayers.

Appellant further argues that the limitations of claims 9 to 12 are not disclosed in the prior art. In the Examiner's Answer, page 8, top, examiner indicates, "and further, Wisor discloses determining whether the predefined area of storage is full, and overwriting the first unique identifier in the storage area as claimed." See Wisor, column 8, lines 35 to 37, "The buffer can be set to wrap around so that the oldest entries are overwritten by the newest entries, or it can be set to generate an interrupt." Appellant at the bottom of page 10 questions whether the determination of the number of unique identifiers and acting on that determination is within the prior art, as claimed. Both Ayers and Wisor discuss overwriting the instruction traces and the BTHB respectively, with activities dependent on the buffer being full. Wisor, column 8, lines 35 to 37, and Ayers, column 3, lines 61 to 62.

We therefore sustain the examiner's rejection of claims 4 to 12 and 15 under 35 U.S.C. § 103 as being obvious over Wisor in view of Ayers.

Conclusion

In view of the foregoing discussion, we have sustained the rejection of all claims under the statutory sections as indicated above.

No time period for taking any subsequent action in connection with this appeal

may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

KENNETH W. HAIRSTON
Administrative Patent Judge

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) BOARD OF PATENT
HOWARD B. BLANKENSHIP
Administrative Patent Judge

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Administrative Patent Judge

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